

Amendments to and Listing of the Claims:

1.. to 43. [Cancelled]

44. (Currently amended) A synthetic neuronal tissue derived from a brain or spinal cord tissue of a mammal, the synthetic neuronal tissue comprising consisting essentially of:

partially-differentiated neuronal progenitor cells that maintain their capacity to perform mitosis and are capable of differentiating into substantially only dopaminergic neurons upon contact of the synthetic neuronal tissue with a differentiation-promoting factor selected from the group consisting of glial cell line-derived neurotrophic factor, leukemia inhibitory factor, interleukin-1, interleukin-2, interleukin-3, interleukin-4, interleukin-5, interleukin-6, interleukin-7, interleukin-8, interleukin-9, interleukin-10, interleukin-11, interleukin-12, interleukin-13, interleukin-14, interleukin-15, interleukin-16, and thyroid hormone,

wherein the synthetic neuronal tissue does not comprise cells that give rise to sufficient glial cells to provoke an immune response upon implantation of the synthetic neuronal tissue into a recipient.

45. (Currently amended) The synthetic neuronal tissue of claim 44, wherein more than 90% of cells in the synthetic neuronal tissue are the progenitor cells.

46. (Currently amended) The synthetic neuronal tissue of claim 45, wherein more than 95% of cells in the synthetic neuronal tissue are the progenitor cells.

47. (Currently amended) The synthetic neuronal tissue of claim 44, wherein the mammal is a human.

48. (Currently amended) The synthetic neuronal tissue of claim 47, wherein the human is an adult.

49. (Currently amended) The synthetic neuronal tissue of claim 47, wherein the human is an embryo.

50. [Cancelled]

51. (Currently amended) The synthetic neuronal tissue of claim 47, wherein the progenitor cells are obtained from either the subventricular region or the hippocampal region of the brain.

52. (Currently amended) The synthetic neuronal tissue of claim 44, wherein the synthetic neuronal tissue is derived from a single cell.

53. (Currently amended) The synthetic neuronal tissue of claim 44, wherein the synthetic neuronal tissue is made by contacting neuronal progenitor cells obtained from the brain or spinal cord tissue with a the differentiation-promoting factor in order to render them partially-differentiated.

54. to 62. [Cancelled]

63. (Currently amended) A synthetic neuronal tissue derived from a brain or spinal cord tissue of a mammal, wherein the synthetic neuronal tissue comprises consists essentially of partially-differentiated neuronal progenitor cells that maintain their capability to perform mitosis and are capable of differentiating into substantially only dopaminergic neurons upon contact of the synthetic neuronal tissue with a differentiation-promoting factor selected from the group consisting of glial cell line-derived neurotrophic factor, leukemia inhibitory factor, interleukin-1,

interleukin-2, interleukin-3, interleukin-4, interleukin-5, interleukin-6, interleukin-7, interleukin-8, interleukin-9, interleukin-10, interleukin-11, interleukin-12, interleukin-13, interleukin-14, interleukin-15, interleukin-16, and thyroid hormone,

wherein the synthetic neuronal tissue does not comprise sufficient cells that give rise to glial cells to provoke an immune response upon implantation of the synthetic neuronal tissue into a recipient, and

wherein the synthetic neuronal tissue is obtained by a method comprising:

- a) dissecting the brain or spinal cord tissue;
- b) isolating neuronal progenitor cells from the brain or spinal cord tissue;
- c) proliferating the progenitor cells;
- d) partially differentiating the progenitor cells by transiently exposing the progenitor cells to a the differentiation-promoting factor;
- e) sub-cloning one of the partially-differentiated neuronal cells; and
- f) proliferating the sub-cloned partially-differentiated neuronal progenitor cell, whereby a population of expanded, partially-differentiated neuronal progenitor cells that maintain their capability to perform mitosis is synthesized, the population being the synthetic neuronal tissue.

64. to 69. [Cancelled]

70. (Currently amended) The synthetic neuronal tissue of claim 63, wherein more than 90% of cells in the synthetic neuronal tissue are the partially-differentiated neuronal progenitor cells.

71. (Currently amended) The synthetic neuronal tissue of claim 63, wherein the partial differentiation is performed more than once.

72. (Currently amended) The synthetic neuronal tissue of claim 63, wherein at least one of the proliferation, partial differentiation, and sub-cloning steps is conducted at a sub-atmospheric oxygen level.

73. (Currently amended) The synthetic neuronal tissue of claim 72, wherein the oxygen level is less than 10%.

74. (Currently amended) The synthetic neuronal tissue of claim 72, wherein step c) is conducted at a sub-atmospheric oxygen level.

75. (Currently amended) The synthetic neuronal tissue of claim 63, wherein at least one of the proliferation, partial differentiation, and sub-cloning steps is conducted at a condition which simulates reduced atmospheric oxygen content.

76. (Currently amended) The synthetic neuronal tissue according to claim 75, wherein the condition is achieved using an inhibitor of mitochondrial respiration.

77. (Currently amended) The synthetic neuronal tissue of claim 75, wherein step c) is conducted at a condition which simulates reduced atmospheric oxygen content.

78. (Currently amended) The synthetic neuronal tissue of claim 63, in a serum-free medium.

79. (Currently amended) A synthetic neuronal tissue that does not comprise cells that give rise to sufficient glial cells to provoke an immune response upon implantation of the synthetic neuronal tissue into a recipient, the synthetic neuronal tissue made by transiently contacting *in vitro* i) neuronal progenitor cells obtained from a brain or spinal cord tissue of a mammal and ii) a differentiation-promoting factor for a period of time that is a) sufficient to render the progenitor cells capable of differentiating into substantially dopaminergic neurons upon contact of the synthetic tissue with a differentiation-promoting factor, and b) not sufficient to eliminate capability of the progenitor cells to perform mitosis.

80. to 82. [Cancelled]

83. (Currently amended) The synthetic tissue of claim 79, wherein substantially all are of the neuronal progenitor cells in the synthetic neuronal tissue are capable of differentiating into only dopaminergic neurons upon contact of the synthetic neuronal tissue with a differentiation-promoting factor, wherein the synthetic neuronal tissue is made by selecting and proliferating a single neuronal progenitor cell after contacting the progenitor cells and the differentiation-promoting factor, wherein the single progenitor cell is selected on the basis that it expresses a marker characteristic of the dopaminergic neuron.

84. (Currently amended) The synthetic neuronal tissue of claim 83, wherein the single neuronal progenitor cell is proliferated by contacting the cell with a mitogen after selecting the cell.